AIWA®

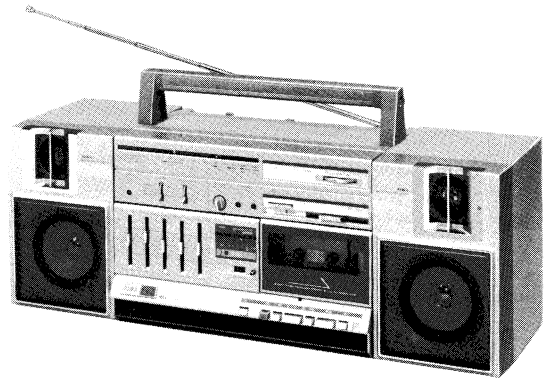
S/M Code No. 83-008
DATE OF ISSUE 3/1983

SERVICE MANUAL

CARRY COMPONENT SYSTEM

MODEL NO.

CA-70

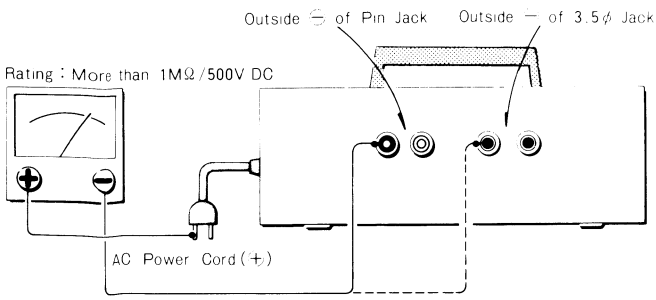


TYPE. H, E, K

Follow the instructions carefully, which will allow the user to optimise the products' performance and give many years of serivce.

1. **No scratch and melting shall be made to covered lead-wires of an a.c. primary circuit including mains leads.**
2. **No illegibility shall be given to the specification plate, the caution labels, the fuse labels and others.**
3. **When, on pattern sides of circuit boards, additional repair-parts have been made up, the parts shall be firmly glued to circuit boards or other components, unless the parts can be attached firmly.**
4. **The following matters shall be maintained as they are, when repairing.**
   1) Soldering of lead-wire ends
      * Care should be taken of the space distance in an a.c. primary circuit as well as soldering.
   2) Wiring and holding of lead-wires with wire-clips and binders
   3) Materials of lead-wires
      * e.g.; For UL models, lead-wires to be used shall be approved or accepted by the UL.
   4) Location of all kinds of insulators
   5) Setting of voltage selector switch
      * Set the Voltage Selector Switch to 240V, 220V, or 120V, According to your Local Voltage.
5. **After repaired, the insulation resistance or leakage current shall be measured with 500 ± 5V D.C and shall be not less than 1MΩ.**

   Measuring Point



6. **General instructions for mechanism repair**
   1) The heads, capstan and pinch roller shall be cleaned of good quality alcohol after repaired, because dirty heads shall cause distorted sounds while dirty capstan and pinch roller shall occur wow/flutter and take-up fault.
   2) Lubricants been stained the surfaces of transmitting portion of the belts, idlers, capstan and pinch roller shall be removed, because slippery and faulty tape travel shall be caused.
   3) When oiling, only one or two drops shall be applied so as not to run over and be dispersed. Note should be taken of the metal fitting for the capstan and rotating portions of the idlers and pinch roller, especially.
   4) E-rings and poly slider washers shall be replaced with new ones, if once those have been removed. – No re-utilization due to unreliability.
   5) Regular spare-parts shall always be used for repair, because using irregular parts and tampering with the products shall cause deterioration, mulfunction and damage.

SPECIFICATIONS

GENERAL

Semiconductors: 12 ICs, 49 transistors, 22 diodes, 10 LED

Power source: Batteries, DC13.5V (SUM-1 x 9)
Car battery (thru car adaptor)
H, E models
AC110 ~ 120/220 ~ 240V
Switchable 50/60 Hz
K model
AC120V/240V
Switchable 50/60 Hz

Power consumption: H model 35W
E model 38W
K model 45W

Dimensions: 338(W) x 227(H) x 195(D) mm

Weight: 5.4kg (W/Batteries)

RADIO SECTION

Circuit: Superheterodyne

Frequency range: H model
FM 87 ~ 109 MHz
SW_2 6.8 ~ 22.5 MHz
SW_1 2.1 ~ 7.3 MHz
MW 515 ~ 1650 kHz
E, K models
FM 87.4 ~ 108.3 MHz
SW 5.8 ~ 18.5 MHz
MW 515 ~ 1650 kHz
LW 145 ~ 320 kHz

Intermediate frequency: H model
FM 10.7 ± 0.3 MHz
SW_2, SW_1, MW 468 ± 3.5 kHz
E, K models
FM 10.7 ± 0.3 MHz
SW, MW, LW 468 ± 3.5 kHz

Sensitivity: H model

(IHF, THD 3%) FM 17 ± 5 dB (at 88 MHz)
20 ± 5 dB (at 100 MHz)
22 ± 5 dB (at 108 MHz)

(S/N 10 dB) SW_2 38 ± 5 dB (at 7.0 MHz)
27 ± 5 dB (at 14.0 MHz)
18 ± 5 dB (at 22.0 MHz)

(S/N 10 dB) SW_1 41 ± 4 dB (at 2.3, 4.0 MHz)
43 ± 4 dB (at 7.0 MHz)

(S/N 10 dB) MW 48 ± 4 dB (at 600 kHz)
45 ± 4 dB (at 1000 kHz)
45 ± 4 dB (at 1400 kHz)

E, K models

(IHF, THD 3%) FM 20 ± 5 dB (at 88 MHz)
16 ± 5 dB (at 100 MHz)
18 ± 5 dB (at 108 MHz)

(S/N 10 dB) SW 37 ± 4 dB (at 5.9 MHz)
26 ± 4 dB (at 12.0 MHz)
21 ± 4 dB (at 18.0 MHz)

(S/N 10 dB) MW 47 ± 4 dB (at 600 kHz)
42 ± 4 dB (at 1000, 1400 kHz)

(S/N 10 dB) LW 54 ± 5 dB (at 150 kHz)
52 ± 5 dB (at 200 kHz)
55 ± 5 dB (at 300 kHz)

Image rejection: H model
FM 25 ± 5 dB (at 108.0 MHz)
SW_2 8 ± 5 dB (at 22.0 MHz)
SW_1 17 ± 4 dB (at 7.0 MHz)
MW 44 ± 5 dB (at 1400 kHz)
E,K models
FM 25 ± 5 dB (at 108.0 MHz)
SW 8 ± 5 dB (at 18 MHz)
MW 44 ± 5 dB (at 1400 kHz)
LW 46 ± 5 dB (at 300 kHz)

IF rejection: H model
FM 70 ± 10 dB (at 88.0 MHz)
MW 67 ± 20 dB (at 600 kHz)
E, K models
FM 80 ± 10 dB (at 88.0 MHz)
MW 67 ± 10 dB (at 600 kHz)
LW 60 ± 10 dB (at 300 kHz)

FM stereo separation: 23 ± 3 dB (at 1 kHz)

Antenna: H model
FM, SW_2 whip antenna
SW_1, MW Ferrite bar antenna
E, K models
FM, SW whip antenna
MW, LW Ferrite bar antenna

TAPE RECORDER SECTION

Track type: 4 track 2 channels

Tape speed: 4.8 cm/s ± 2% (1-7/8 ips)

Recording system: AC bias

Erasing system: AC erase

Record bias frequency: 61 ± 0.5 kHz

Erasing ratio: More than 60 dB

Separation: More than 40 dB (at REC/PB)

Distortion: Less than 3% (at PB)
Less than 3% (at REC/PB)

Signal noise ratio: More than 49/47 dB (at PB, DC/AC)
More than 43/42 dB (at REC/PB, DC/AC)

Noise level: Less than 1.5/2.0 mV (DC/AC, MIN.)

Frequency response: 30 ~ 16,000 Hz (METAL)
30 ~ 14,000 Hz (CrO_2)
30 ~ 13,000 Hz (LH)

Output power: 36 W maximum (18W + 18W, DC)

Head: Super parmalloy head (for REC/PB)
Ferrite head (for Erase)

Motor: DC electric governer

Wow and Flutter: 0.045% (WRMS)

Auto stop: Mechanical full auto stop system

Pinch roller pressure: 125 ± 10g (1.23 ± 0.098N)

Take up torque: 35^{+15}_{-5}g-cm (343^{+147}_{-49}mN·m)

FF & rewind torque: 110 ± 20g-cm (1078 ± 196mN·m)

FF & rewind time: 90 ± 5s. (C-60)

Input terminals: MIX MIC φ6.3 jack x 2
LINE IN RCA pin x 2
PHONO RCA pin x 2

Input sensitivity/Impedance:
MIC 1.4mV/3kΩ
LINE IN 300mV/100kΩ
PHONO 5mV/47kΩ

Output terminals: LINE OUT RCA pin x 2
EXT. SP φ3.5 jack
PHONES φ6.3 jack
(160mV, 8Ω)

SPEAKER SECTION

Type: 2 way closed type

Speakers: Woofer 120mmφ x 2 cone type
Tweeter 50mmφ x 2 cone type

Impedance: 8Ω

Frequency response: 50 ~ 18,000 Hz

Sound pressure level: 87 dB/W/m

Allowance maximum input power: 15W

Dimension: 148(W) x 227(H) x 195(D) mm

Weight: 2kg

SYSTEM

Dimension: 630(W) x 292(H) x 195(D) mm

Weight: 9.4kg

- Specifications and external appearance are subject to change without due to product improvement.
- Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
- Dolby and the DD symbol are trademarks of Dolby Laboratories Licensing Corporation.

DISASSEMBLY INSTRUCTIONS

1. Removing Front Cabinet

1) Remove the 8 knobs. (See Figure 1)

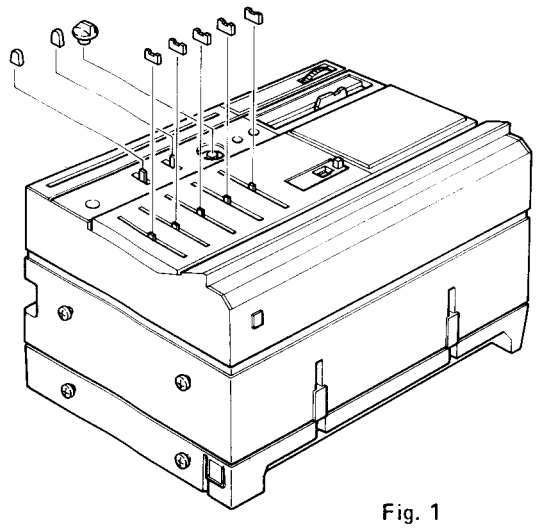


Fig. 1

2) Remove the 8 screws. (See Figure 2)

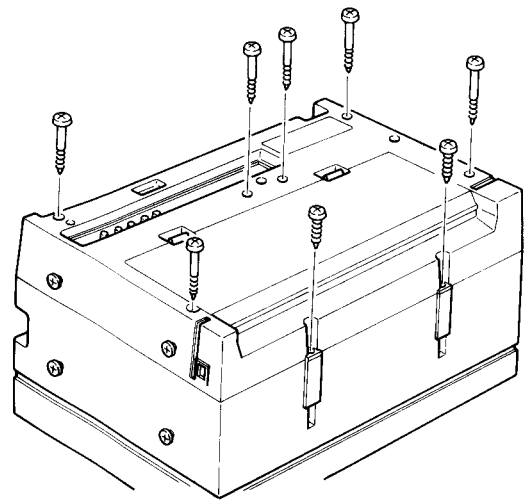


Fig. 2

3) Open the cassette lid to remove the front panel. (See Figure 3)

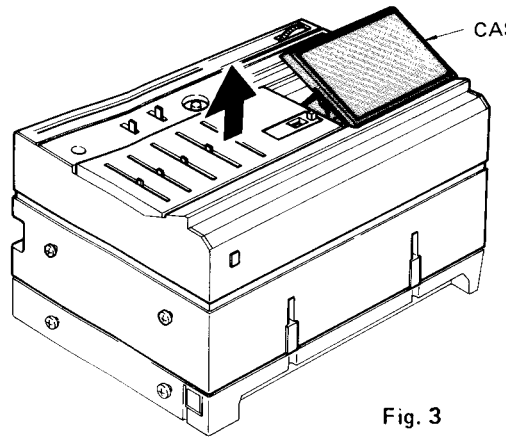


Fig. 3

Do not force to remove the tape selector knob and mic volume knob. Holding up the front panel, the knobs can be removed with-together.

2. Removing Mechanism

1) Remove the 2 red screws. (See Figure 4)

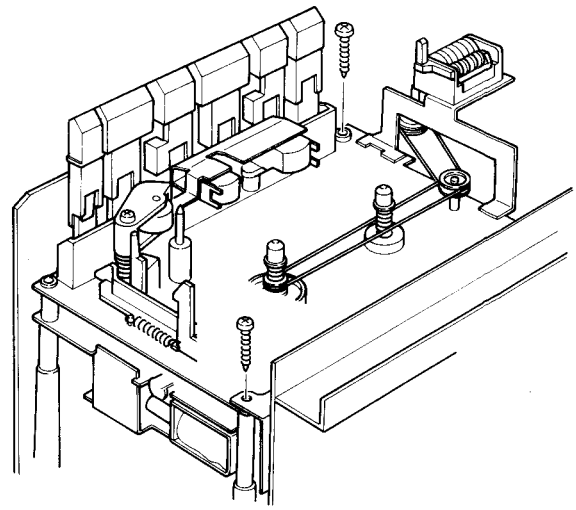


Fig. 4

2) Disconnect the 3 connectors. (See Figure 5)

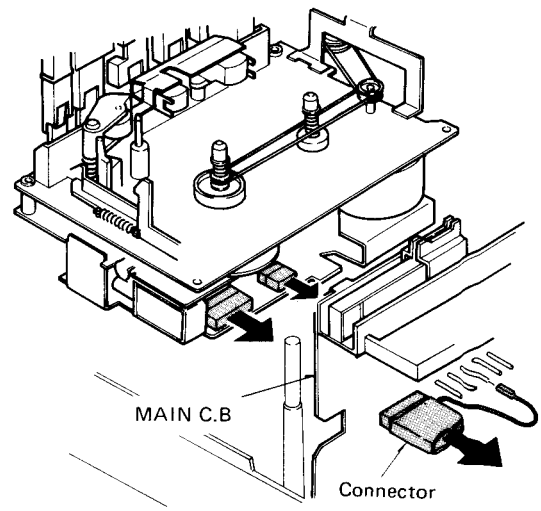


Fig. 5

3. Removing GEQ P.C.B.

1) Disconnect the 3 connectors and remove the 2 screws. (See Figure 6)

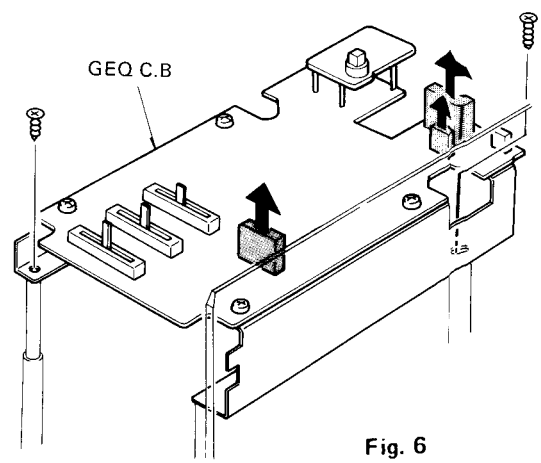


Fig. 6

4. Removing Tuner P.C.B.

1) Remove the 2 screws. (See Fig. 7)

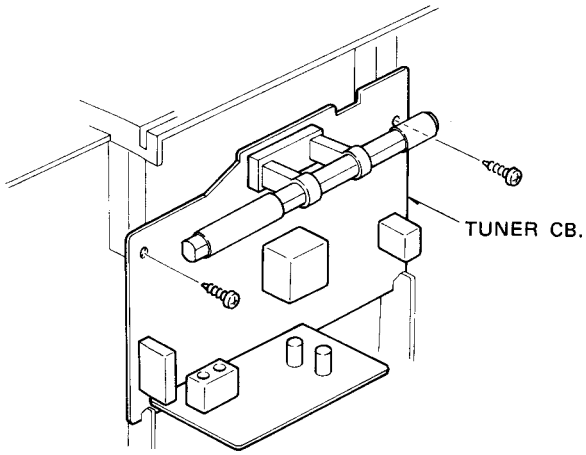


Fig. 7

5. Removing Main P.C.B.

1) Remove the screw.
2) Raising the left side of main P.C.B. in direction 1 , slide it in direction 2 to detach the jack plate from the rear cabinet. Then, pull out the whole P.C.B. front ward (in direction 3).

(See Figure 8)

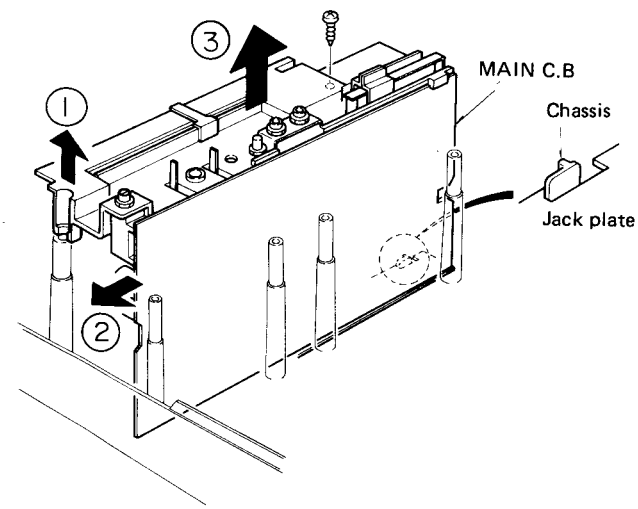


Fig. 8

6. Replacing Fuse

1) Remove the 2 screws and raise power P.C.B. in the direction of the arrow to replace the fuse. (See Figure 9)

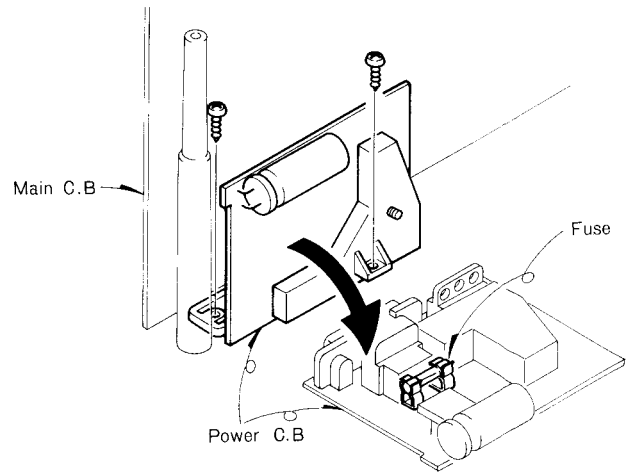
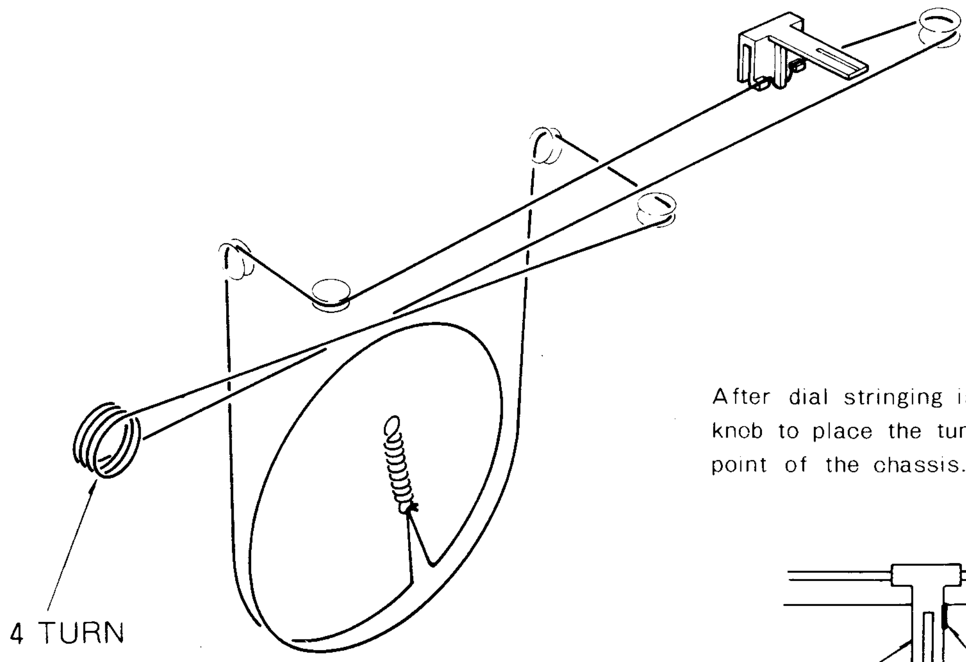
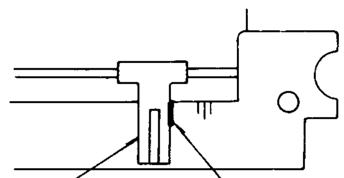


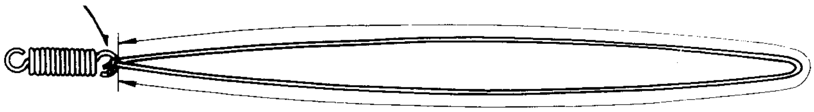
Fig. 9

DIAL CORD STRINGING



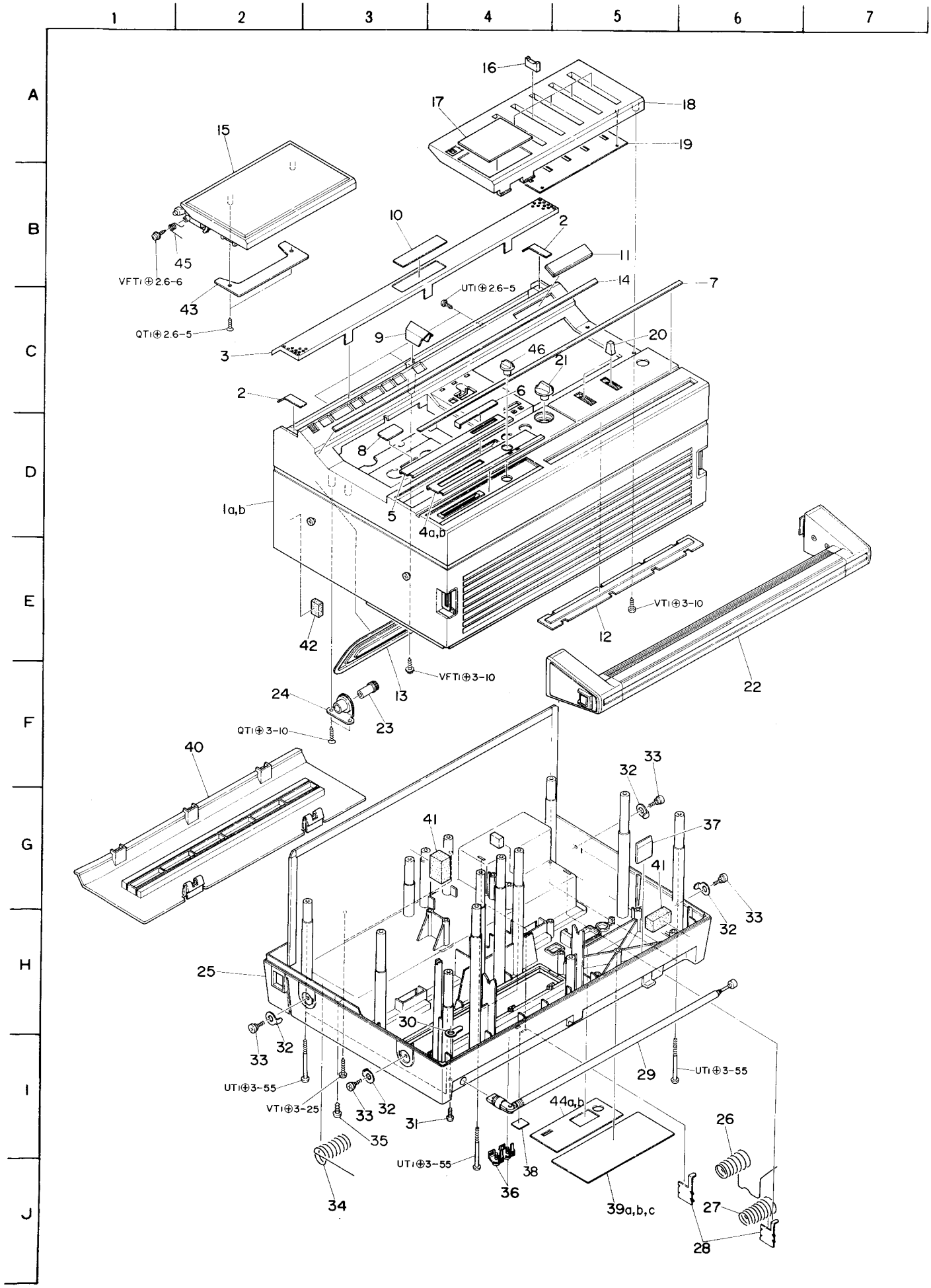
After dial stringing is completed, turn the tuning knob to place the tuning pointer upon the tuning point of the chassis.





☆ **MEMO** ☆

EXPLODED VIEW-1



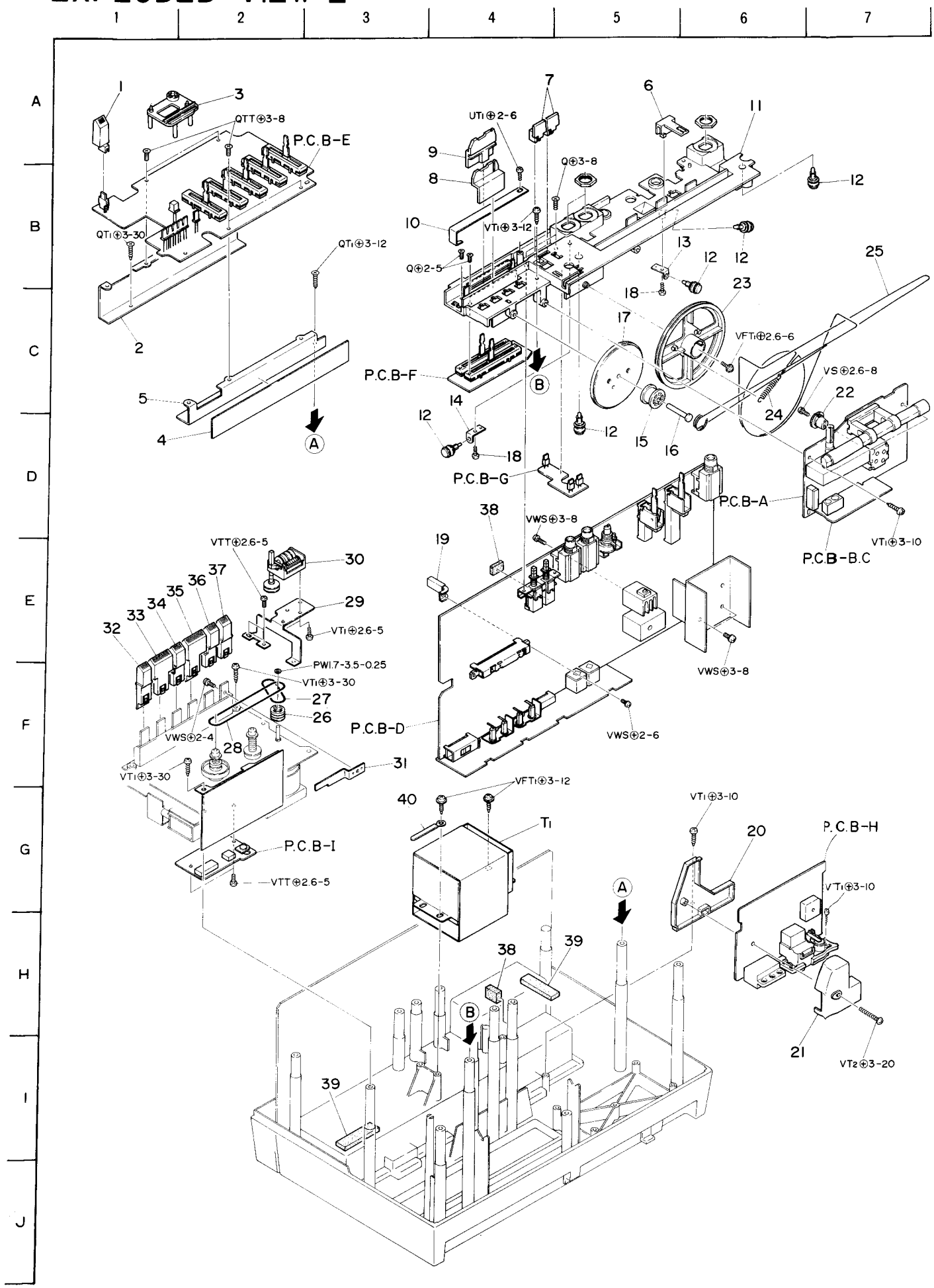
PARTS LIST

MECHANICAL PARTS

■ * mark in this part list shows exclusive part

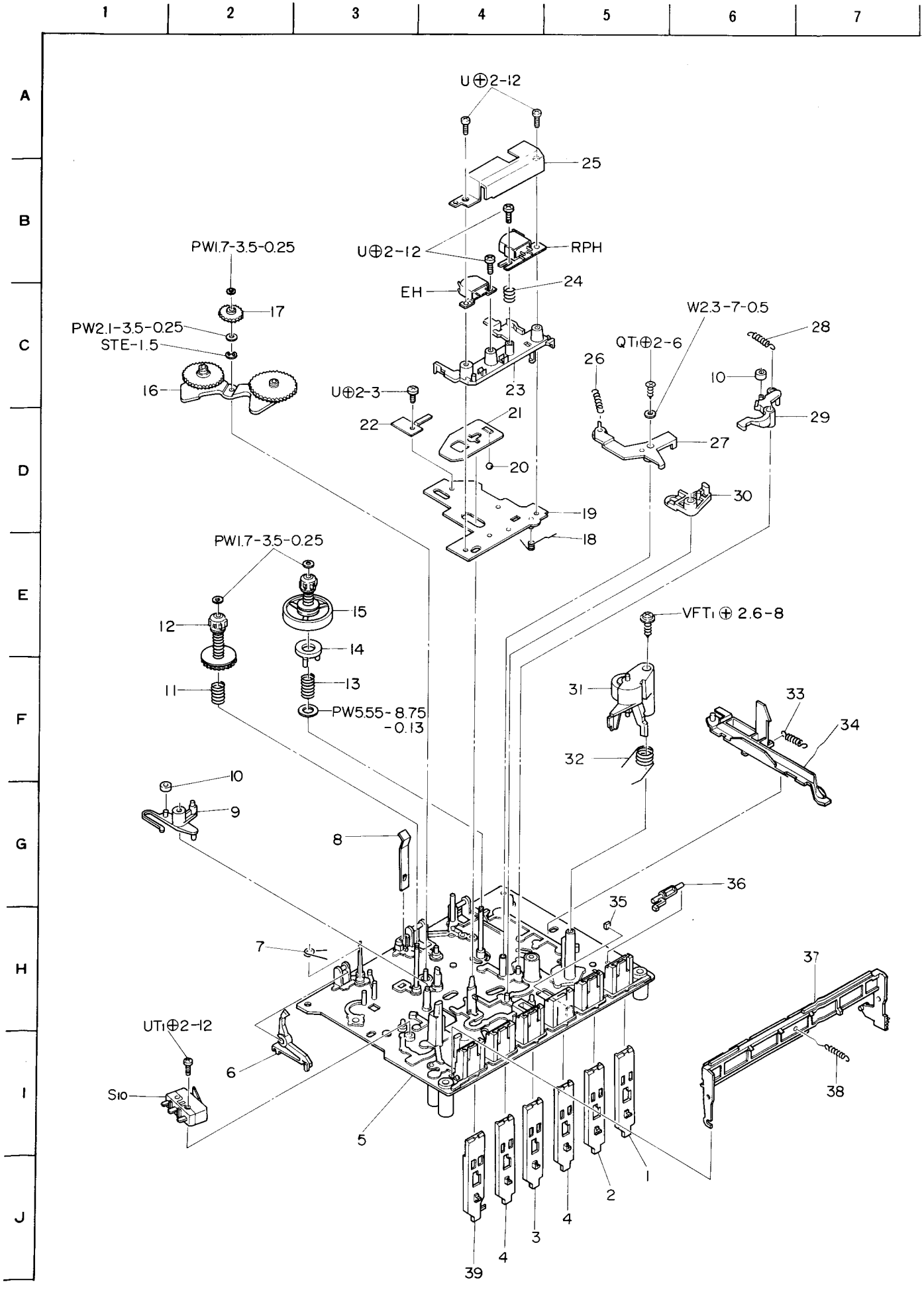
Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1a ~ 14	**09-017-948-01**		**Main cabinet ass y (H model only)**	*	**1**
1b ~ 14	**09-017-949-01**		**Main cabinet ass'y (E, K models only)**	*	**1**
1-1a	81-515-087-01		Main cabinet ass'y (H model only)	*	1
b	81-515-003-01		Main cabinet ass'y (E, K models only)	*	1
1-2	81-515-019-01		Himeron cloth, Panching	*	2
1-3	81-515-005-11		Panching drone	*	1
1-4a	81-515-046-01		Plate, Tuning (H model only)	*	1
b	81-515-085-01		Plate, Tuning (E, K models only)	*	1
1-5	81-515-009-11		Plate, Volume	*	1
1-6	81-512-042-01		Side plate, Volume		1
1-7	81-515-091-01		Decorative name plate	*	1
1-8	82-648-025-01		Label, Tape indicator	HS-F1	1
1-9	81-515-089-11		Supporting plate	*	1
1-10	81-515-090-01		Badge 3D	*	1
1-11	81-515-098-01		Badge, AIWA	*	1
1-12	81-515-006-01		Window, Dial	*	1
1-13	81-515-601-11		Drone cone, Speaker	*	1
1-14	81-515-097-01		Decorative name plate B	*	1
1-15	81-515-017-11		Cassette box ass'y	*	1
1-16	81-515-040-11		Knob, Graphic equalizer	*	5
17 ~ 19	**09-017-935-01**		**GE panel ass'y**	*	**1**
1-17	81-515-013-11		LED plate	*	1
1-18	81-515-012-11		Panel, Graphic equalizer	*	1
1-19	81-515-014-01		Blind plate, Graphic equalizer	*	1
1-20	82-591-033-11		Knob, Toggle	CS-W7	2
1-21	81-515-029-01		Knob, Volume	*	1
1-22	81-515-022-31		Handle ass'y	*	1
1-23	82-534-264-01		Gear, Oil-damp		1
1-24	82-595-239-01		Oil-damp metal fitting ass'y	CS-360	1
25 ~ 37	**81-515-084-21**		**Back cover cabinet ass'y**	*	**1**
1-25	81-515-004-11		Cabinet, Back cover	*	1
1-26	81-515-209-01		C-spring, Terminal D	*	1
1-27	81-515-217-01		C-spring, Terminal L	*	1
1-28	82-587-215-01		Battery terminal plate	CS-880	2
1-29	87-043-064-01		Whip antenna		1
1-30	87-450-419-01		LB-9		1
1-31	87-485-097-21		VS + 3 – 12		1
1-32	81-515-041-01		Lug joint	*	4
1-33	81-515-020-01		Screw, Joint	*	4
1-34	82-587-214-01		C-spring, Terminal B	CS-880	1
1-35	87-349-096-21		UT_1 + 3 – 10		1
1-36	81-515-633-01		External antenna terminal S	*	2
1-37	81-515-088-01		Rib, Back cover cabinet	*	1
1-38	81-515-049-01		Blind plate, Antenna	*	1
1-39a	81-515-054-01		Name plate, Spec. (H model only)	*	1
b	81-515-053-01		Name plate, Spec. (E model only)	*	1
c	81-515-060-01		Name plate, Spec. (K model only)	*	1
1-40	81-515-079-01		Battery room lid ass'y	*	1
1-41	81-515-095-01		G cushion	*	2
1-42	81-515-096-01		G cushion	*	1
1-43	81-515-226-01		Name plate, Cassette	*	1
1-44a	81-515-073-01		Name plate, AC jack (H, E models only)	*	1
b	81-515-074-01		Name plate, AC jack (K model only)	*	1
1-45	81-515-236-01		T-spring, Cassette box	*	1
1-46	81-515-048-11		Knob, Band selector	*	1

EXPLODED VIEW-2



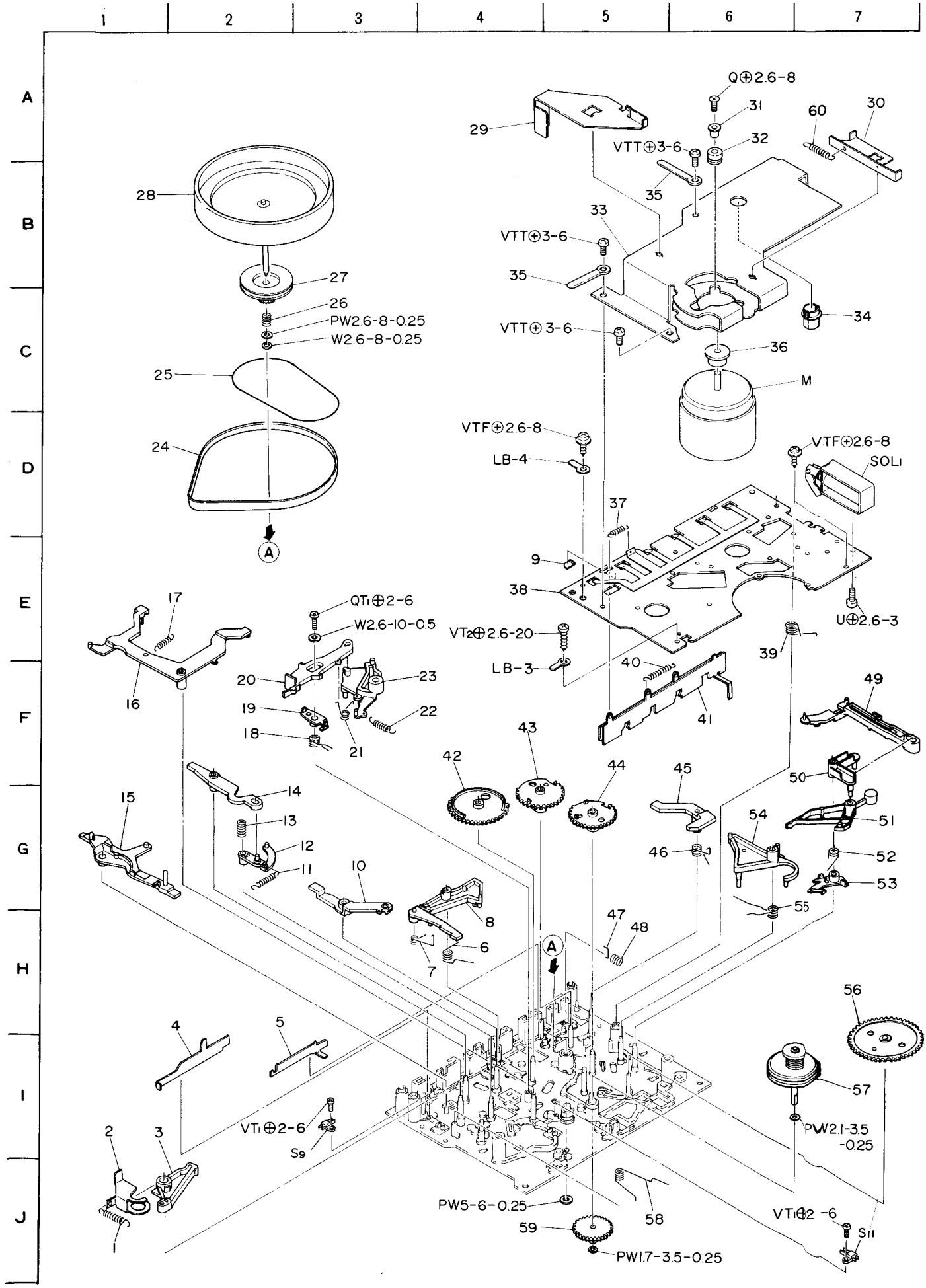
Ref. No.	Part No.	Part No. changed to	Description	Common Model	Q'ty
2-1	81-515-038-01		Push-button, REC MUTE	*	1
2-2	81-515-212-01		Holder A, Graphic equalizer	*	1
2-3	81-515-218-11		Holder, LED	*	1
2-4	81-515-219-01		Sheet, Graphic equalizer	*	1
2-5	81-515-216-01		Holder B Graphic equalizer	*	1
2-6	81-515-018-11		Pointer, Tuning	*	1
2-7	81-515-037-01		Push-button B	*	2
2-8	81-515-035-01		Knob L, Volume	*	1
2-9	81-515-043-01		Knob R, Volume	*	1
2-10	81-512-041-01		Volume back plate	*	1
11 ~ 18	**81-515-221-41**		**R chassis ass'y**	*	**1**
2-11	81-515-203-11		R chassis	*	1
2-12	87-071-019-01		Roller 7ϕ		5
2-13	81-515-214-01		Metal fitting A, Roller	*	1
2-14	81-515-225-01		Metal fitting B, Roller	*	1
2-15	81-515-213-01		Roller, Tuning	*	1
2-16	81-515-204-01		Shaft, Tuning	*	1
2-17	81-515-034-01		Knob, Tuning	*	1
2-18	87-352-095-21		VT_1 + 3 – 8		2
2-19	81-515-206-11		REC lever	*	1
2-20	82-551-246-21		Cover, Fuse		1
2-21	82-598-217-11		Holder, Circuit board	CA-W10	1
2-22	81-511-203-21		Joint, Drum		1
2-23	81-500-205-01		Drum, Dial		1
2-24	82-541-291-01		E-spring, Dial		1
2-25	87-096-090-01		String 4ϕ, Dial		1
2-26	82-585-427-01		Relay pulley		1
2-27	81-515-210-01		Rubber belt, Counter	*	1
2-28	82-585-426-01		Rubber belt, Counter		1
2-29	81-515-202-11		Holder, Counter	*	1
2-30	87-040-163-01		Counter		1
2-31	82-585-434-01		Lever, One-push recording		1
2-32	82-598-019-11		Push-key, PAUSE	CA-W10	1
2-33	82-598-016-01		Push-key, STOP	CA-W10	1
2-34	82-598-017-11		Push-key, FF	CA-W10	1
2-35	82-598-015-11		Push-key, PLAY	CA-W10	1
2-36	82-598-018-11		Push-key, REW	CA-W10	1
2-37	81-515-039-11		Push-key, REC	*	1
2-38	81-515-096-01		G cushion	*	2
2-39	87-063-113-11		Cushion WA		2
2-40	87-038-039-01		Wire binder		1

EXPLODED VIEW-3



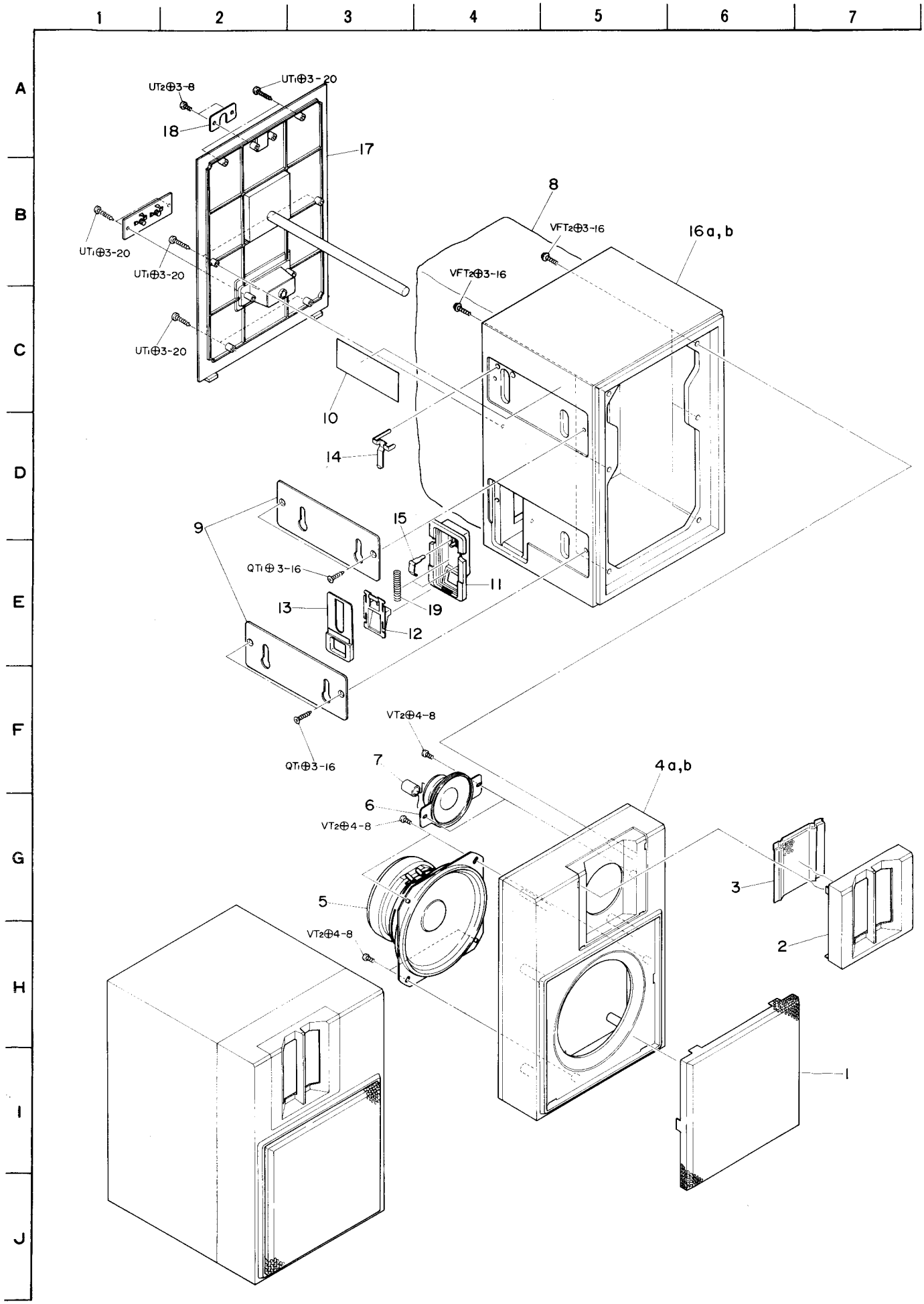
Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	
3-1	82-585-361-01		Plate button, PAUSE		1	
3-2	82-585-382-01		Plate button B, STOP		1	
3-3	82-585-355-01		Plate button, PLAY		1	
3-4	82-585-360-01		Plate button B, FR		2	
3-5	82-585-418-01		Outsert chassis ass'y		1	
3-6	82-585-255-11		REC blocking lever		1	
3-7	82-585-294-21		T-spring, Center shift		1	
3-8	82-585-448-01		P-spring, Cassette pressure		1	
3-9	82-585-252-01		Lever, Brake L		1	
3-10	82-585-286-01		G cushion, Brake		2	
3-11	82-585-290-01		C-spring, Back tension		1	
3-12	82-585-215-11		Supply reel platform ass'y		1	
3-13	82-585-292-41		C-spring, Slip disk		1	
3-14	82-585-272-11		Slip disk T		1	
3-15	82-585-423-01		Take-up reel paltform ass'y		1	
3-16	82-585-231-21		FR lever ass'y		1	
3-17	82-585-235-01		Gear A, REW		1	
3-18	82-585-295-21		T-spring, Actuating		1	
3-19	82-585-208-11		Actuating chassis		1	
3-20	87-073-005-01		Steel ball 2ϕ		1	
3-21	82-585-284-01		P-spring, Actuating		1	
3-22	82-585-349-01		Holder, Idler lever		1	
3-23	82-585-209-31		Head base		1	
3-24	82-585-291-01		C-spring, RPH		1	
3-25	82-585-625-01		Shield plate, Head		1	
3-26	82-585-313-31		E-spring, Play idler		1	
3-27	82-585-446-01		Play idler lever ass'y		1	
3-28	82-585-312-01		E-spring, Brake R		1	
3-29	82-585-253-11		Brake R lever		1	
3-30	82-585-265-21		REV lever		1	
3-31	82-585-364-01		Pinch lever ass'y		1	
3-32	82-585-296-11		T-spring, Pinch lever		1	
3-33	82-585-311-01		E-spring, Lid lock		1	
3-34	82-186-216-11		Slide plate, Eject	AD-WX110	1	
3-35	82-585-338-01		G cushion		1	
3-36	82-585-279-21		Eject lever A		1	
3-37	82-585-377-21		Lock plate B		1	
3-38	82-585-317-41		E-spring, Button lock		1	
3-39	82-585-432-01		Plate button B, REC		1	

EXPLODED VIEW-4



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
4-1	82-585-384-01		E-spring, REC		1
4-2	82-585-267-01		REC lever B		1
4-3	82-585-413-11		REC lever C		1
4-4	82-585-282-11		Slide plate, Motor switch		1
4-5	82-585-283-01		Slide plate, FR auto		1
4-6	82-585-306-11		T-spring, Play lever		1
4-7	82-585-307-01		T-spring, REC lever		1
4-8	82-585-428-01		PLAY lever ass'y		1
4-9	82-585-453-01		Button guide, REC		1
4-10	82-585-258-11		Trigger lever, PLAY		1
4-11	82-585-308-21		E-spring, REW lever		1
4-12	82-585-260-31		REW lever		1
4-13	82-439-369-11		Slip spring		1
4-14	82-585-259-11		Trigger lever, REW		1
4-15	82-585-387-11		Trigger lever B, REC		1
4-16	82-585-257-21		Trigger lever, FF		1
4-17	82-585-301-01		E-spring, Trigger play		1
4-18	82-585-297-01		T-spring, FR lever A		1
4-19	82-585-403-01		FR lever G		1
4-20	82-585-386-01		FR lever F		1
4-21	82-585-298-01		T-spring, FR lever B		1
4-22	82-585-311-01		E-spring, Lid lock		1
4-23	82-585-385-01		FR lever E		1
4-24	82-585-451-01		Rubber belt, Flywheel		1
4-25	82-585-378-01		Rubber belt, FR C		1
4-26	82-585-398-01		C-spring, Flywheel		1
4-27	82-585-243-11		Flywheel gear B		1
4-28	82-585-407-21		Flywheel ass'y		1
4-29	81-515-215-01		REC lever C	*	1
4-30	81-515-211-01		REC lever B	*	1
4-31	81-511-232-01		Collar, Motor		3
4-32	87-063-129-01		Rubber cushion		3
4-33	82-585-412-01		Holder B, Motor		1
4-34	82-585-406-01		Thrust bearing		1
4-35	87-038-039-01		Wire binder		2
4-36	82-585-452-01		Motor pulley		1
4-37	82-175-289-01		E-spring, Slide plate A	AD-3500	1
4-38	82-585-419-01		Mechanism chassis ass'y		1
4-39	82-585-321-41		T-spring, Auto kick		1
4-40	82-585-332-01		E-spring, REC lock		1
4-41	82-585-435-01		Slide plate key ass'y		1
4-42	82-585-244-01		Gear, PLAY cam		1
4-43	82-585-246-01		Gear, PAUSE cam		1
4-44	82-585-245-21		Gear, FR cam		1
4-45	82-585-256-31		Trigger lever, PAUSE		1
4-46	82-585-304-21		T-spring, Trigger PAUSE		1
4-47	82-585-362-01		Shaft lock B		1
4-48	82-585-285-11		C-spring, Lock		1
4-49	82-585-359-41		Plate auto kick ass'y		1
4-50	82-585-269-11		Auto lever B		1
4-51	82-585-268-01		Auto lever A		1
4-52	82-585-299-01		T-spring, Auto eject		1
4-53	82-585-271-01		Auto eject lever		1
4-54	82-585-431-01		PAUSE lever B		1
4-55	82-585-300-11		T-spring, FR cam		1
4-56	82-585-247-11		Gear, Auto kick		1
4-57	82-587-369-21		Slip pulley FR B ass'y		1
4-58	82-585-303-21		T-spring, Trigger REC		1
4-59	82-585-216-11		Gear, Drive		1
4-60	81-585-207-01		E-spring, REC lever		1

EXPLODED VIEW-5



PARTS LIST

SPEAKER PARTS

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	
1 ~ 19	– – – –		**Speaker cabinet ass'y R**	*	1	
1 ~ 19	– – – –		**Speaker cabinet ass'y L**	*	1	
5-1	81-515-061-01		Grille, Woofer	*	2	
5-2	81-515-059-01		Decorative, Tweeter	*	2	
5-3	81-515-062-01		Grille, Tweeter	*	2	
5-4a	81-515-055-01		Front panel R	*	1	
b	81-515-056-01		Front panel L	*	1	
5-5	81-515-602-01		Speaker woofer	*	2	
5-6	81-563-602-01		Speaker tweeter		2	
5-7	87-010-007-01		Condenser BP –3.3 μF		2	
5-8	– – – –		Acoustical material	*	2	
5-9	81-515-226-01		Joint plate R	*	4	
5-10	81-515-086-01		Label, Spec. plate	*	2	
5-11	81-515-229-01		Joint body	*	2	
5-12	81-515-230-01		Joint slider	*	2	
5-13	81-515-231-01		Joint cover	*	2	
5-14	81-515-232-01		P-spring, Joint A	*	2	
5-15	81-515-233-01		P-spring, Joint B	*	2	
5-16a	– – – –		Cabinet R	*	1	
b	– – – –		Cabinet L	*	1	
5-17	81-515-065-01		Rear panel	*	2	
5-18	81-515-069-01		Metal fitting, Carrying handle	*	2	
5-19	81-515-237-01		C-spring	*	4	

ACCESSORIES/PACKAGE LIST

Ref. No	Part No.	Part No. Changed to	Description	Common Model	Qt'y
1	81-515-855-01		Printed indiv., Packing	*	1
2	81-515-852-01		Cushion L, Printed indiv.	*	1
3	81-515-853-01		Cushion R, Printed indiv.	*	1
4	81-515-856-01		Outer carton	*	1
5	87-056-628-01		Poly-vinyl sack		1
6a	81-515-904-01		Instructions booklet (H model only)	*	1
b	81-515-905-01		Instructions booklet (E, K models only)	*	1
7	87-051-171-11		Poly-vinyl sack		1
8	87-056-008-11		Label, AC power cord (K model only)		1
9	87-056-009-51		Distributors list		1
10	87-056-016-01		Tag, Main voltage		1
11	87-056-046-01		Instruction label, POWER		1
12	81-515-650-01		CA-70 speaker EX ass'y (H model only)	*	1
13	81-515-624-21		CA-70 speaker ass'y (E, K models only)	*	1
14	87-032-845-01		Siemens plug (H model only)		1
15	87-034-883-01		AC power cord set (E model only)		1
16	87-034-972-01		Connection cord CW-2534SK		1
17	87-034-983-01		AC power cord F ass'y (H model only)		1
18	87-034-986-01		AC power cord F ass'y CEE		1
19	87-034-987-01		AC power cord (K model only)		1

AIWA Co., Ltd. Tokyo Japan

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ELECTRICAL MAIN PARTS LIST

Symbol No.	Part No.	Description
≪TUNER CIRCUIT BOARD SECTION≫		
PCB-A	81-511-604-01	Tuner circuit board
IC1	87-027-912-01	IC, μPC1255C
IC2	87-027-913-01	IC, TA7640AP
IC3	87-027-867-01	IC, TA7343P
Q1, 3	89-318-155-01	Transistor, 2SC1815 (GR)
Q4	89-110-155-01	Transistor, 2SA1015 (GR)
Q5	89-502-414-01	FET, 2SK-241Y
D1	87-017-004-01	Diode, SD117
D2	87-027-332-01	Zener diode, HZ6B1L
D3	87-027-097-01	Diode, 1S1555
L1	87-006-056-01	FM RF coil
L2	87-007-121-01	FM OSC coil
L5	87-005-151-01	Choke coil, 2.2μH
L6	82-576-650-01	SW2 antenna coil
L7, 8	81-515-621-01	SW1/MW bar antenna coil
L9	87-007-125-01	SW2 OSC coil
L10	87-007-124-01	SW1 OSC coil
L11	87-007-123-01	MW OSC coil
VC1 ~ 4 TC1 ~ 4	87-011-138-01	PVC, 335-20P
TC5, 7	87-011-139-01	Trimmer, 6pF
TC6, 8	87-011-142-01	Trimmer, 10pF
CF1, 2	87-008-261-01	Ceramic filter, 10.7MA5-A
CFT1	87-008-260-01	Ceramic filter transformer 468 PS
IFT1	87-008-258-01	FM IFT PS
IFT2	87-008-259-01	FM IFT (Quad) PS
IFT3	87-008-256-01	AM IFT (DET) PS
BPF1	87-030-082-01	Band pass filter
S12	87-031-765-01	Rotary switch (BAND SELECTOR)
	87-032-966-01	Pin, 6P
	87-033-144-01	Pin, 1φ
SFR1	87-021-741-01	Semi-fixed resistor, 4.7kΩ-B
		<Resistor>
⚠R25	87-029-102-01	47Ω ¼W Fuse resistor
		<Capacitors>
C33	87-015-697-01	3.3μF 50V Electro lytic
C35	87-014-057-81	1000pF PP
C39, 40	87-015-695-01	1μF 50V Electrolytic
C42	87-015-677-01	100μF 6.3V Electrolytic
≪FILTER CIRCUIT BOARD SECTION≫		
PCP-B	*	Filter circuit board
LPF1	87-008-253-01	Low-pass filter
	87-049-119-01	Pin, 9P
≪MUTING CIRCUIT BOARD SECTION≫		
PCB-C	*	Muting circuit board
Q6, 7, 8	87-318-155-01	Transistor, 2SC1815 (GR)
D4	87-027-097-01	Diode, 1S1555
	87-049-115-01	Pin, 5P
≪MAIN CIRCUIT BOARD SECTION≫		
PCB-D	81-515-641-01	Main circuit board
ICI	87-027-714-01	IC, M51542L
IC2	87-027-910-01	IC, μPC1228
IC3	87-027-885-01	IC, TA7341 (P)
IC4	87-027-953-01	IC, HA12046
IC5, 6	87-027-982-01	IC, LA4507
Q1, 2, 3, 4, 5, 6, 13, 14, 15, 16, 19, 20, 24, 25	89-318-154-01	Transistor, 2SC1815 (Y)
Q7	89-106-834-01	Transistor, 2SA683RS
Q8, 11, 12, 21, 22, 23	89-320-011-01	Transistor, 2SC2001K
Q9, 10, 17, 18	89-322-405-01	Transistor, 2SC2240 (GR)
Q26, 27	89-318-464-01	Transistor, 2SC1846 (R)
Q28	89-110-154-01	Transistor, 2SA1015 (Y)

Symbol No.	Part No.	Description
D1, 2, 3, 4, 5, 8, 10, 11	87-027-097-01	Diode, 1S1555
D6, 12, 13	87-027-606-01	Zener diode, HZ7C2L
D7	87-027-365-01	Diode, S5277B
D9	87-027-211-01	Zener diode, RD3, 9 ED
D14	87-027-676-01	Zener diode, HZ12B3L
L1, 2	82-487-654-01	Coil, 3-PE
L3	82-401-661-01	Choke coil, 600μH
L4	87-003-065-01	Choke coil, 36μH
L5, 6	87-003-070-01	Choke coil, 5.6mH
CP1	82-594-631-11	OSC block
FILTER 1, 2	81-511-628-01	Bias filter
VR3	87-021-768-01	Volume, 20kΩ-B (MIC)
J1, 2, 5, 6 7, 8, GND	82-598-616-01	Jack plate ass'y (LINE IN/PHONO, LINE OUT, EXT SPEAKER, GND)
J3, 4	87-049-258-01	Jack, 6.3φ (MIX MIC)
J9	87-049-259-01	Jack, 6.3φ W/switch (PHONES)
S1	87-031-762-01	Slide switch (REC/PB)
S2	87-031-768-01	Lever switch (FUNCTION)
S3	87-031-764-01	Lever switch (TAPE SELECTOR)
S4, 6	87-031-763-01	Push-switch (MODE, DOLBY-NR)
S5	82-563-609-01	Slide switch (PHONO/LINE IN)
S7	82-431-604-01	Slide switch (OSC)
SFR1, 2, 3, 4	87-021-745-01	Semi-fixed resistor, 47kΩ-B
SFR5, 6	87-021-735-01	Semi-fixed resistor, 220Ω-B
PIN 1	87-049-050-01	Pin, 6P
PIN 2	87-032-897-01	Pin, 3P
PIN 3	87-049-034-01	Pin, 4P
PIN 4	81-515-617-01	Connector ass'y 6P
CON 5	81-515-625-01	Connector ass'y, 2P
CON 6	81-515-626-01	Connector ass'y, 5P
CON 7	81-515-618-01	Connector ass'y, 7P
CON 8	81-515-616-01	Connector ass'y, 2P
CON 9	81-515-637-01	Connector ass'y, 3P
		<Resistors>
⚠R86	87-029-094-01	15Ω ¼W Fuse resistor
⚠R155, 156, 157, 158	87-029-108-01	1Ω ½W Fuse resistor
R170	87-025-313-01	4.7Ω ¼W Nonflammable
		<Capacitors>
C1, 2, 63, 64	87-014-053-81	680pF PP
C101, 102	87-015-429-01	0.33μF 25V Aluminum solid
≪GEQ CIRCUIT BOARD SECTION≫		
PCB-E	*	GEQ circuit board
IC1, 2	87-027-863-01	IC, TA75558S
IC3	87-027-812-01	IC, IR2E01
Q1, 2, 3, 4, 5, 6, 7, 8 9, 10, 11, 12, 13, 14, 15	89-318-155-01	Transistor, 2SC1815 (GR)
D1, 2, 3, 4, 5	87-027-983-01	LED, GL105R5 (LEVEL METER
D6	87-027-984-01	LED, GL9PR23 (BATT./
D7	87-027-772-01	OPERATE)
D8, 9, 10, 11	87-027-097-01	LED, GL9PR4 (RECORD)
VR1, 2, 3, 4, 5	87-021-770-01	Slide volume, 100kΩ-W (70Hz, 350Hz, 1kHz, 3.5kHz, 10kHz)
S8	87-031-769-01	Tact switch (REC MUTE)
SFR1	87-021-743-01	Semi-fixed resistor, 22kΩ-B
PIN4	87-049-050-01	Pin, 6P
PIN5	87-049-080-01	Pin, 2P
PIN6	87-049-065-01	Pin, 5P

Symbol No.	Part No.	Description
		<Capacitors>
C1, 2, C42	87-015-428-01	0.22μF 25V Aluminum solid
	87-015-684-01	47μF 16V Electrolytic
C46	87-015-695-01	1μF 50V Electrolytic
C47	87-015-698-01	4.7μF 50V Electrolytic
≪VOLUME CIRCUIT BOARD SECTION≫		
PCB-F	*	Volume circuit board
VR1, 2	87-021-769-01	Slide volume, 20kΩ-A (VOLUME)
≪LED CIRCUIT BOARD SECTION≫		
PCB-G	*	LED circuit board
D1	87-027-732-01	LED, SG-235D (DOLBY-NR)
D2, 3	87-027-731-01	LED, SR-535D (FM STEREO, TUNING)
≪POWER CIRCUIT BOARD SECTION≫		
⚠PCB-H	*	Power circuit board
D1	87-027-609-01	Encapsulated diode, S4VB
⚠J11, 12	87-032-929-01	Jack (AC jack, DC jack)
⚠F1	87-035-259-01	Fuse, 6.3A
	87-098-048-01	Fuse label
⚠	87-033-147-01	Fuse clamp
		<Resistor>
R1	87-025-336-01	820Ω 2W Metal film
≪RELAY CIRCUIT BOARD SECTION≫		
PCB-I	81-515-611-11	Relay circuit board
SFR1	87-021-592-01	Semi-fixed resistor, 1kΩ-B
PIN 7	87-049-139-01	Connector ass'y 7P
PIN 8	87-049-243-01	Connector ass'y 2P
≪MISCELLANEOUS≫		
⚠T1	81-515-634-01	Power transformer
RPH	87-046-209-01	REC/PB head
EH	87-046-196-01	Erase head
M1	87-045-196-01	Motor
SOL 1	81-515-629-01	Solenoid
S9	87-031-548-01	Leaf switch (MOTOR)
S10	87-031-537-01	Micro switch (PLAY)
S11	87-031-649-01	Leaf switch (F/R)
⚠S12	87-031-466-01	Slide switch (VOLTAGE SELECTOR)
	81-515-622-01	Heatsink P-A
	81-515-623-01	Heatsink P-B
	82-304-656-01	Heatsink
	81-515-601-01	Drone cone speaker
	81-515-648-01	Fasten ass'y, ANT
	81-515-633-01	External antenna terminal S
CON1	89-051-011-01	Connector ass'y, 6P
CON2	81-515-636-01	Connector ass'y, 2P
CON3	89-051-008-01	Connector ass'y, 4P
≪SPEAKER SECTION≫		
SP1, 2	81-515-602-01	Speaker (Woofer)
SP3, 4	81-563-602-01	Speaker (Tweeter)
		<Capacitor>
C1, 2	87-010-007-01	3.3μF Electrolytic BP

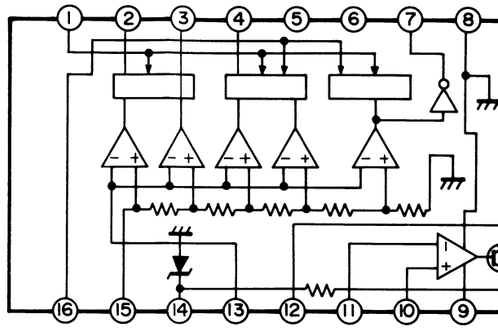
⚠ Safety component symbol
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

Note; Combination Circuit Board
The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

Combination circuit board 81-515-607-11

PCB-B, C	**81-515-630-11**
PCB-E	**81-515-608-11**
PCB-F	**81-515-609-11**
PCB-G	**81-515-610-11**
PCB-H	**81-515-632-11**

IR2E01



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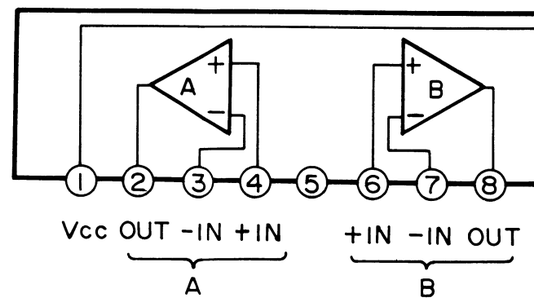


Symbol No.	Part No.	Description
D1, 2, 3, 4, 5, 8, 10, 11	87-027-097-01	Diode, 1S1555
D6, 12, 13	87-027-606-01	Zener diode, HZ7C2L
D7	87-027-365-01	Diode, S5277B
D9	87-027-211-01	Zener diode, RD3, 9 ED
D14	87-027-676-01	Zener diode, HZ12B3L
L1, 2	82-487-654-01	Coil, 3-PE
L3	82-401-661-01	Choke coil, 600μH
L4	87-003-065-01	Choke coil, 36μH
L5, 6	87-003-070-01	Choke coil, 5.6mH
CP1	82-594-631-11	OSC block
FILTER 1, 2	81-511-628-01	Bias filter
VR3	87-021-768-01	Volume, 20kΩ-B (MIC)
J1, 2, 5, 6 7, 8, GND	82-598-616-01	Jack plate ass'y (LINE IN/PHONO, LINE OUT, EXT SPEAKER, GND)
J3, 4	87-049-258-01	Jack, 6.3φ (MIX MIC)
J9	87-049-259-01	Jack, 6.3φ W/switch (PHONES)
S1	87-031-762-01	Slide switch (REC/PB)
S2	87-031-768-01	Lever switch (FUNCTION)
S3	87-031-764-01	Lever switch (TAPE SELECTOR)
S4, 6	87-031-763-01	Push-switch (MODE, DOLBY-NR)
S5	82-563-609-01	Slide switch (PHONO/LINE IN)
S7	82-431-604-01	Slide switch (OSC)
SFR1, 2, 3, 4	87-021-745-01	Semi-fixed resistor, 47kΩ-B
SFR5, 6	87-021-735-01	Semi-fixed resistor, 220Ω-B
PIN 1	87-049-050-01	Pin, 6P
PIN 2	87-032-897-01	Pin, 3P
PIN 3	87-049-034-01	Pin, 4P
PIN 4	81-515-617-01	Connector ass'y 6P
CON 5	81-515-625-01	Connector ass'y, 2P
CON 6	81-515-626-01	Connector ass'y, 5P
CON 7	81-515-618-01	Connector ass'y, 7P
CON 8	81-515-616-01	Connector ass'y, 2P
CON 9	81-515-637-01	Connector ass'y, 3P
		< Resistors >
⚠R86	87-029-094-01	15Ω ¼W Fuse resistor
⚠R155, 156, 157, 158	87-029-108-01	1Ω ½W Fuse resistor
R170	87-025-313-01	4.7Ω ¼W Nonflammable
		<Capacitors>
C1, 2, 63, 64	87-014-053-81	680pF PP
C101, 102	87-015-429-01	0.33μF 25V Aluminum solid
≪GEQ CIRCUIT BOARD SECTION≫		
PCB-E	*	GEQ circuit board
IC1, 2	87-027-863-01	IC, TA75558S
IC3	87-027-812-01	IC, IR2E01
Q1, 2, 3, 4, 5, 6, 7, 8 9, 10, 11, 12, 13, 14, 15	89-318-155-01	Transistor, 2SC1815 (GR)
D1, 2, 3, 4, 5	87-027-983-01	LED, GL105R5 (LEVEL METER
D6	87-027-984-01	LED, GL9PR23 (BATT./
D7	87-027-772-01	OPERATE)
D8, 9, 10, 11	87-027-097-01	LED, GL9PR4 (RECORD)
VR1, 2, 3, 4, 5	87-021-770-01	Slide volume, 100kΩ-W (70Hz, 350Hz, 1kHz, 3.5kHz, 10kHz)
S8	87-031-769-01	Tact switch (REC MUTE)
SFR1	87-021-743-01	Semi-fixed resistor, 22kΩ-B
PIN4	87-049-050-01	Pin, 6P
PIN5	87-049-080-01	Pin, 2P
PIN6	87-049-065-01	Pin, 5P

Symbol No.	Part No.	Description
		< Capacitors >
C1, 2, C42	87-015-428-01	0.22μF 25V Aluminum solid
C46	87-015-684-01	47μF 16V Electrolytic
C47	87-015-695-01	1μF 50V Electrolytic
	87-015-698-01	4.7μF 50V Electrolytic
≪VOLUME CIRCUIT BOARD SECTION≫		
PCB-F	*	Volume circuit board
VR1, 2	87-021-769-01	Slide volume, 20kΩ-A (VOLUME)
≪LED CIRCUIT BOARD SECTION≫		
PCB-G	*	LED circuit board
D1	87-027-732-01	LED, SG-235D (DOLBY-NR)
D2, 3	87-027-731-01	LED, SR-535D (FM STEREO, TUNING)
≪POWER CIRCUIT BOARD SECTION≫		
⚠PCB-H	*	Power circuit board
D1	87-027-609-01	Encapsulated diode, S4VB
⚠J11, 12	87-032-929-01	Jack (AC jack, DC jack)
⚠F1	87-035-259-01	Fuse, 6.3A
	87-098-048-01	Fuse label
⚠	87-033-147-01	Fuse clamp
		< Resistor >
R1	87-025-336-01	820Ω 2W Metal film
≪RELAY CIRCUIT BOARD SECTION≫		
PCB-I	81-515-611-11	Relay circuit board
SFR1	87-021-592-01	Semi-fixed resistor, 1kΩ-B
PIN 7	87-049-139-01	Connector ass'y 7P
PIN 8	87-049-243-01	Connector ass'y 2P
≪MISCELLANEOUS≫		
⚠T1	81-515-634-01	Power transformer
RPH	87-046-209-01	REC/PB head
EH	87-046-196-01	Erase head
M1	87-045-196-01	Motor
SOL 1	81-515-629-01	Solenoid
S9	87-031-548-01	Leaf switch (MOTOR)
S10	87-031-537-01	Micro switch (PLAY)
S11	87-031-649-01	Leaf switch (F/R)
⚠S12	87-031-466-01	Slide switch (VOLTAGE SELECTOR)
	81-515-622-01	Heatsink P-A
	81-515-623-01	Heatsink P-B
	82-304-656-01	Heatsink
	81-515-601-01	Drone cone speaker
	81-515-648-01	Fasten ass'y, ANT
	81-515-633-01	External antenna terminal S
CON1	89-051-011-01	Connector ass'y, 6P
CON2	81-515-636-01	Connector ass'y, 2P
CON3	89-051-008-01	Connector ass'y, 4P
≪SPEAKER SECTION≫		
SP1, 2	81-515-602-01	Speaker (Woofer)
SP3, 4	81-563-602-01	Speaker (Tweeter)
		< Capacitor >
C1, 2	87-010-007-01	3.3μF Electrolytic BP

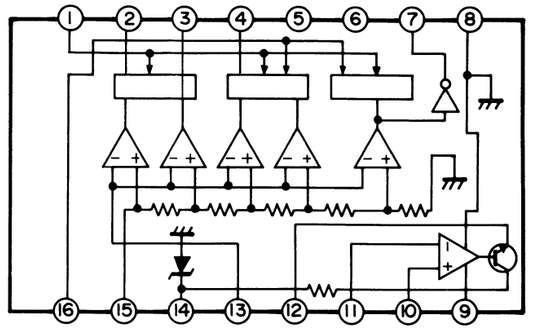
⚠ Safety component symbol
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

Note; Combination Circuit Board
The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

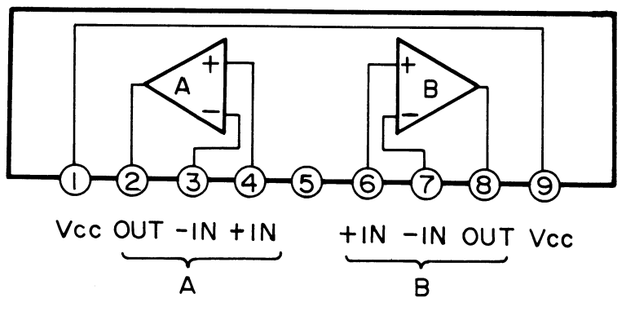
Combination circuit board 81-515-607-11

PCB-B, C	**81-515-630-11**
PCB-E	**81-515-608-11**
PCB-F	**81-515-609-11**
PCB-G	**81-515-610-11**
PCB-H	**81-515-632-11**

IR2E01

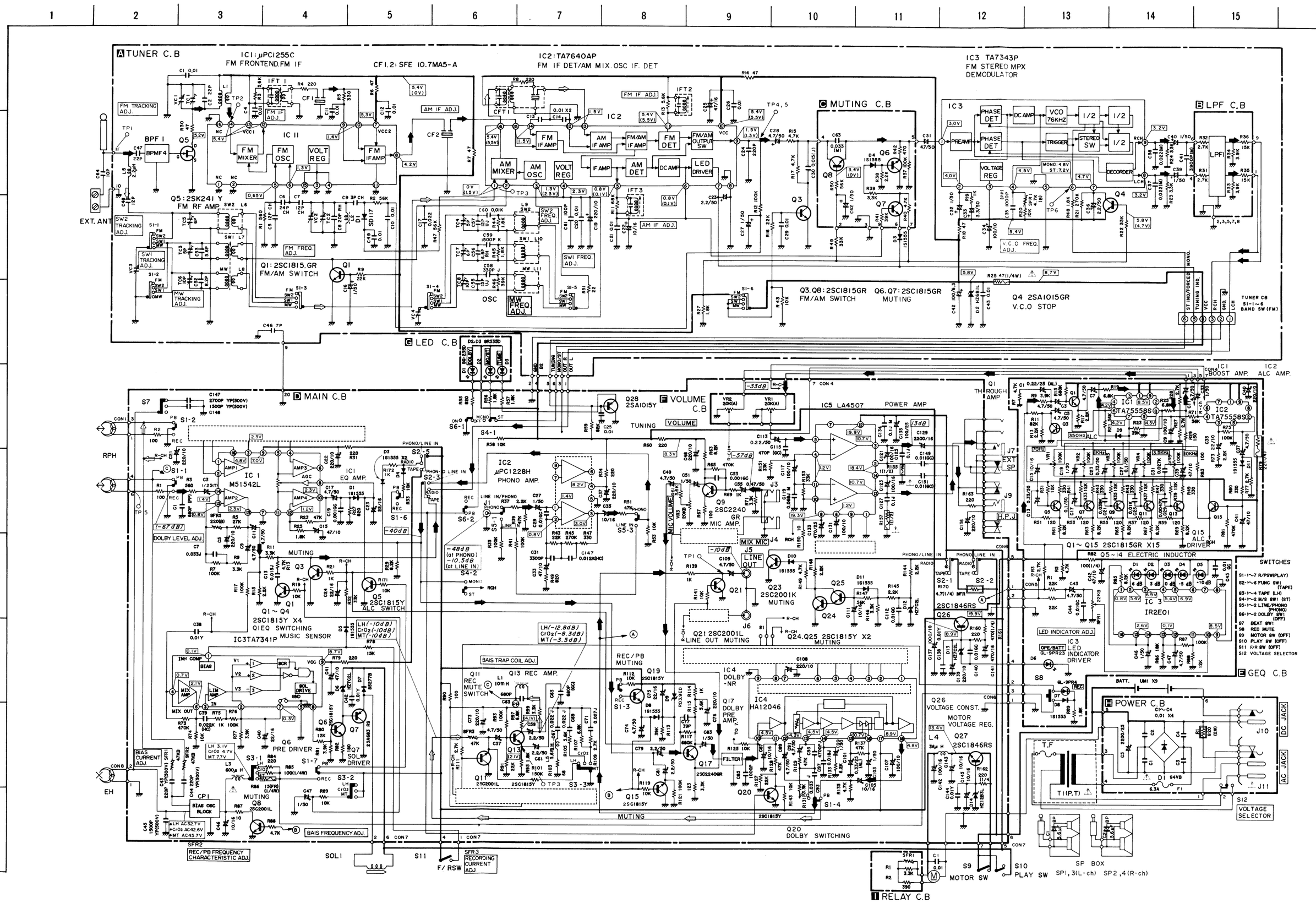


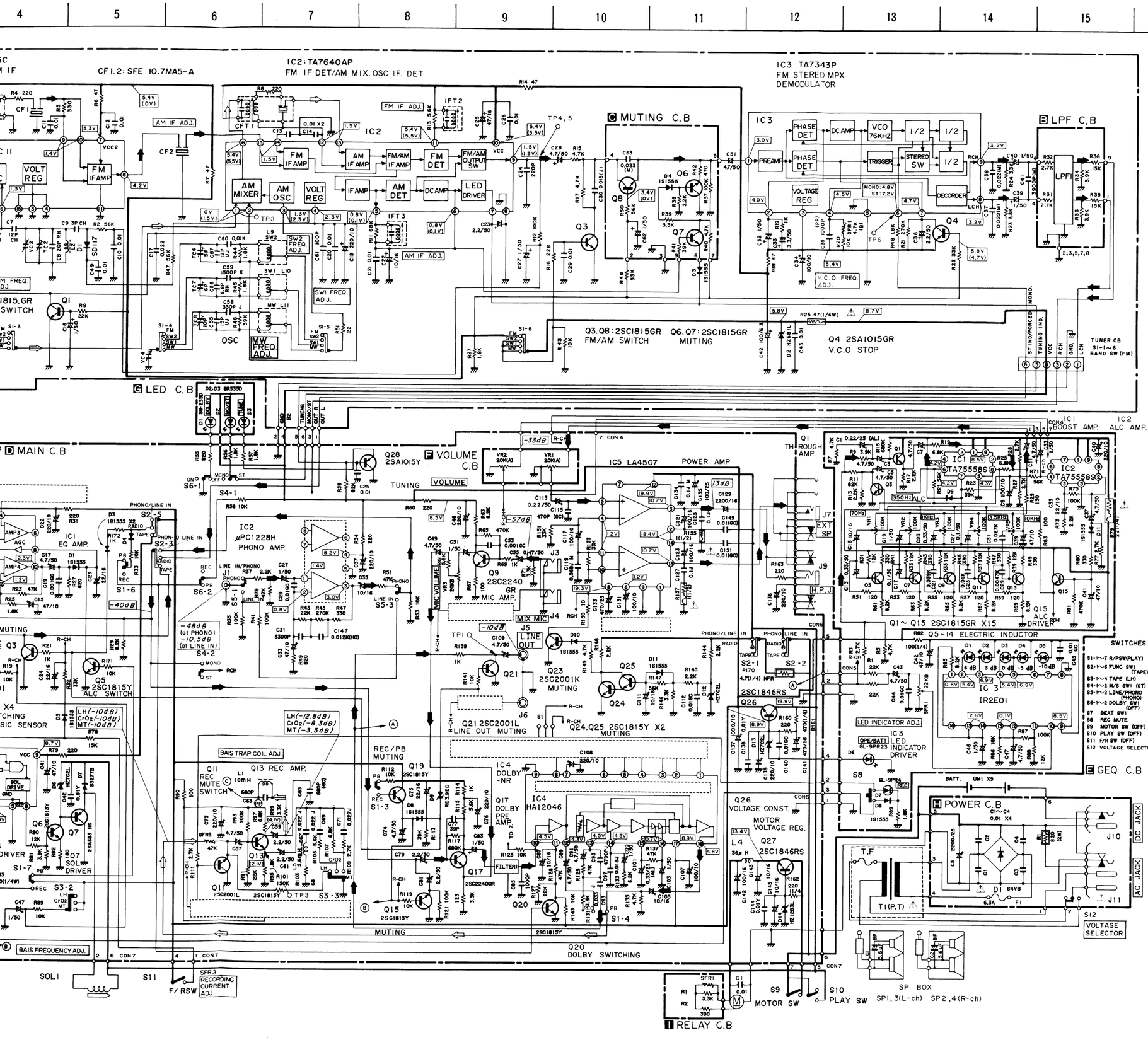
TA75558S



CA-70 H CA-70 H

SCHEMATIC DIAGRAM



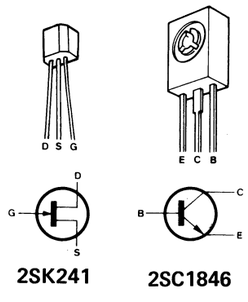


NOTES:

1) ■ B (+) power supply
2) ➡ Signal path
   ⇨ Rec path, AM signal path.
3) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals.
   But ( ) is with AM reception or recording.
   An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.
4) Resistors with no designation have a rated power of 1/8W and a tolerance of ±5%.
5) Capacitors with no designation have a dielectirc strneght of less than 50WV.
6) The only capacitor tolerance indicated are ±5% (J) and ±10% (K).
7) Ceramic capacitor symbols:
   - For temperature compensation (SL)
   - High dielectric constant system (YY)
   - High dielectric constant system (YW, YP, YZ)
   - Semiconductor ceramic
   - For temperature compensation (SH)
8) Explanation of symbols
   - (M) Mylar capacitor
   - (A) Aluminum solid capacitor
   - (PP) Polypropylene film capacitor
   - (BP) Bi-polarized capacitor
   - (LL) Low-leakage capacitor
   - Fuse resistor
   - Nonflammable resistor

⚠ Safety component symbol
This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

- This schematic diagram is subject to change without notice in the interests of improved performance.



AIWA

NOTES (1) Earth pattern Others pattern
(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.
An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.

WIRING–1

1. Azimuth Adjustment
Settings:
- Test tape: TTA-117E
- Adjustment location: RPH Azimuth adjustment screw.

RPH

A TUNER C.B

TUNER EARTH

D MAIN C.B

J9 PHONES

S2 FUNCTION

PHONO/LINE IN
RADIO
TAPE

METAL
CrO_2
LH

S3 TAPE SELECTOR

VR3 MIC VOLUME

MIX MIC

CON1

A MAIN C.B J3,4

F VOLUME C.B

VR1,2 VOLUME

S4 MODE

ST
MONO

S6 DOLBY-NR

OFF
ON

CON4 E GEQ C.B

I RELAY C.B

CON 7

34-40

1-6

7

8

1-5

10-14

15-17

18-20

29-33

27-28

23-26

21-22

J7,8 EXT SPEAKER

CON 6

CON8

CON3

(SPEAKER TERMINAL)

L-CH

R-CH

E GEQ C.B

I RELAY C.B

D MAIN C.B

G LED C.B

S7 OSC

J5,6 LINE OUT

J1,2 PHONO/LINE IN

CON 5

E GEQ C.B

S5 PHONO/LINE IN

LINE IN ⟷ PHONO

15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

C.B

(PIK) (WHT) (PIK) (WHT) CON4 E GEQ C.B

(PIK) (RED) (WHT) (GRY) (ORG) (GRY) (WHT)

S5 S5-2 S5-3 S5-1 S5-4 R41

LINE IN ⟷ PHONO

S5
PHONO/LINE IN

CON 5

C.B

E GEQ C.B

D1 D2 D3 D4 D5 D6 D7 IC3 R85 R87 R88 R86 C46 C47 C42 C45

D1~5 LEVEL METER
D6 OPERATE/BATT.
D7 RECORD INDICATOR

PIN6 PIN5 D8 S8 SFR1 IC1 IC2 Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 Q12 Q13 Q14 Q15 D10 D11 D12 PIN4 VR1 VR2 VR3 VR4 VR5

S8
REC MUTE

VR5 10KHZ VR4 3.5KHZ VR3 1KHZ VR2 350HZ VR1 70HZ

4. LED Indicator Adjustment
Settings:
- Test tape: TTA-161
- Adjustment location: SFR1

Method:
Adjust SFR1 so that the +3dB LED lights up.

2. Tape Speed Adjustment
Settings:
- Test tape: TTA-111S
- Adjustment location: SFR in Motor C.B.

I RELAY C.B

EH SFR1 PIN8 PIN7 SOL 1 (PAUSE) S11 (FF/REW) S9 (MOTOR) M C1 (MOTOR)

S10 (PLAY)

TP3 Bias Trap Coil Test Point (L-ch)

TP4 Bias Trap Coil Test Point (R-ch)

TP5 Bias Current Test Point (L-ch)

TP6 Bias Current Test Point (R-ch)

TP2 Dolby Level Test Point (R-ch)

TP1 Dolby Level Test Point (L-ch)

3. Dolby Level Adjustment
Settings:
- Test tape: TTA-161
- TAPE SELECTOR switch: LH
- DOLBY-NR switch: ON
- Test Points: TP1 (L-ch); TP2 (R-ch)
- Adjustment locations: SFR5 (L-ch), SFR6 (R-ch)

Method:
Playback the test tape and adjust so that the test points is 450mV.

8. Recording Current Adjustment
Settings:
- FUNCTION switch: LINE IN
- TAPE SELECTOR switch: CrO_2
- Test tape: TTA-119G
- Input signal: LINE IN, −20.5dB, 1kHz
- Adjustment locations: SFR3 (L-ch)
  SFR4 (R-ch)

Method:
Record and play back the 1kHz signal. Adjust SFR3, 4 so that the 1kHz output deivation are 0.5 ± 0.5dB.

S6 S4 J4 J3 VR3 S3 S2 J9 SFR6 SFR5 S1 FILTER 2 FILTER 1 SFR3 SFR 4 L2 L1 CP1 OSC BLOCK SFR2 SFR1

6. Bias Trap Coil Adjustment
Settings:
- Test points: TP3 (L-ch), TP4 (R-ch)
- Adjustment locations: L1 (L-ch)
  L2 (R-ch)

* For others, proceed as for 5 Bias OSC Frequency Adjustment.

Method:
Adjust L1, 2 so that the voltage at test points TP3, 4 is reduced to minimum value.

7. Bias Current Adjustment
Settings:
- Test points: TP5 (L-ch), TP6 (R-ch)
- TAPE SELECTOR switch: CrO_2
- Adjustment locations: SFR1 (L-ch)
  SFR2 (R-ch)

Method:
Adjust SFR1, 2 so that the voltage at test points TP5, 6 is 540μA (54mV).

Ragings:
- LH ..... 360 ± 30μA
- CrO_2 ..... 540 ± 20μA
- METAL ..... 860 ± 30μA

5. Bias OSC. Frequency Adjustment
Settings:
- Recording mode
- TAPE SELECTOR switch: METAL
- OSC switch: "—" position
- Test points: TP3, 4
- Adjustment location: CP1

Method:
Adjust CP1 so that the frequency at test point is 61 ±0.5kHz. Check that the frequency changes when the OSC switch is selected.
"•" 60 ± 0.5kHz
"••" 62.2 ± 0.5kHz

9. REC/PB Frequency Characteristic Adjustment
Settings:
- Input signals: −20.5dB, 63Hz, 1kHz, 4kHz
- Test points: TP5 (L-ch), TP6 (R-ch)
- DOLBY-NR switch: ON
- Adjustment locations: SFR1 (L-ch)
  SFR2 (R-ch)

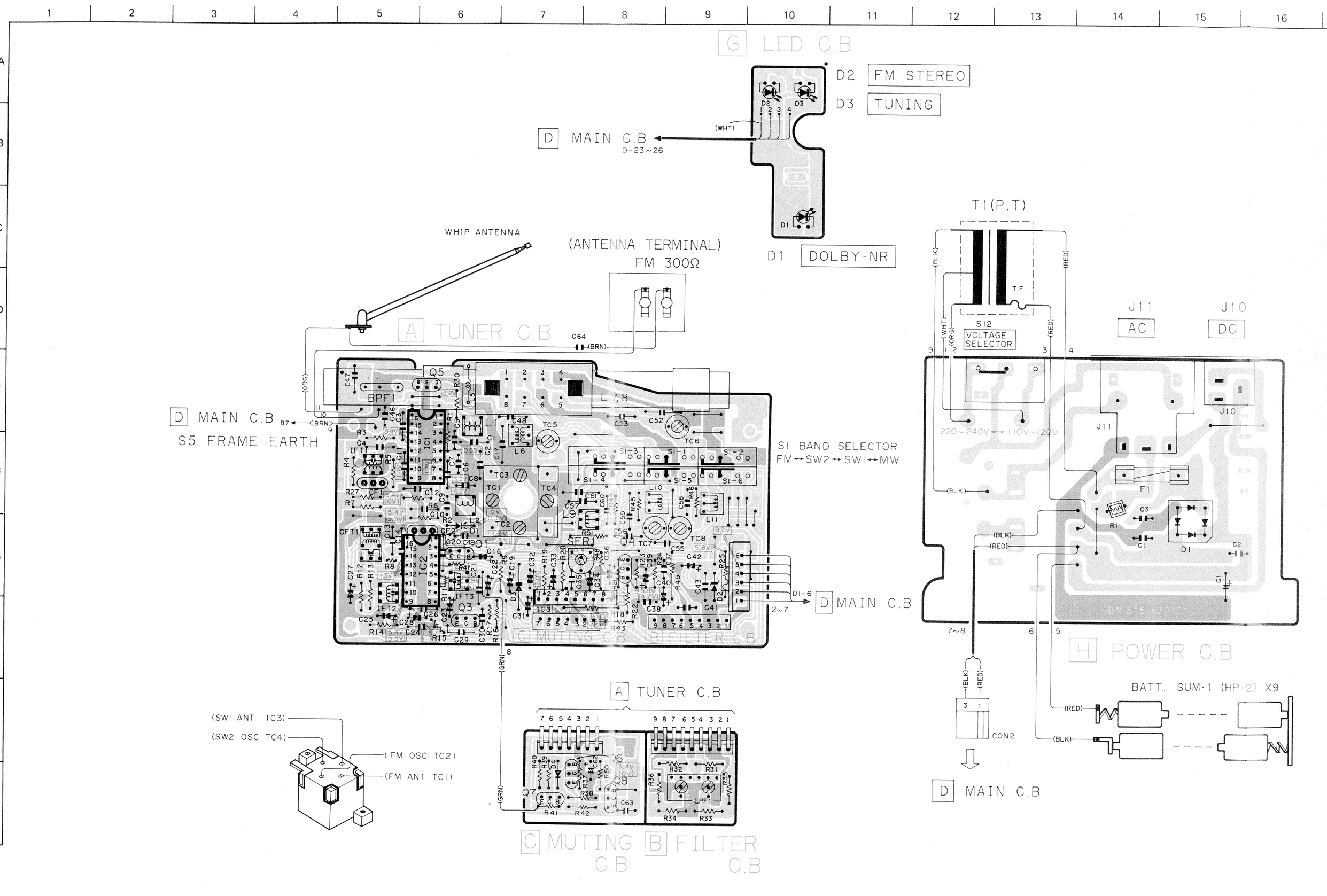
* For others, proceed as for 8. Recording Current Adjustment.

Method:
Record and play back the 63Hz, 1kHz and 4kHz signals. Adjust SFR1, 2 so that the 63Hz and 4kHz outputs are identical.

Ratings:
1kHz/63Hz: 0dB/−2 ± 2dB
1kHz/4kHz: 0dB/0 ± 1dB

NOTES (1) Earth pattern Others pattern

(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.
But ( ) is with AM reception.



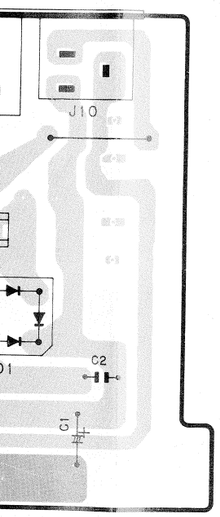
CA-70 H CA-70 H

AIWA

15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

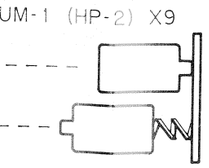
J10

DC



C.B

UM-1 (HP-2) X9



MW Tracking Adjustment
L8 ..... 600 kHz
TC6 ..... 1,440 kHz

SW2 Tracking Adjustment
L6 ..... 7.0 MHz
TC5 ..... 22.0 MHz

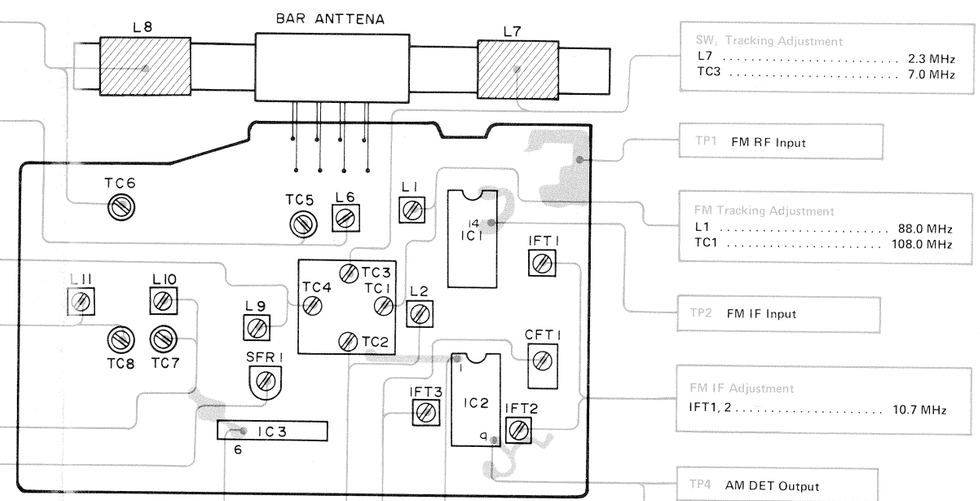
SW2 Freq. Range Adjustment
L9 ..... 6.8 MHz
TC4 ..... 22.5 MHz

MW Freq. Range Adjustment
L11 ..... 515 kHz
TC8 ..... 1,650 kHz

SW1 Freq. Range Adjustment
L10 ..... 2.1 MHz
TC7 ..... 7.3 MHz

V.C.O. Frequency Adjustment
SFR1 ..... 38 kHz ± 40 Hz

TP6 V.C.O. Test Point



SW1 Tracking Adjustment
L7 ..... 2.3 MHz
TC3 ..... 7.0 MHz

TP1 FM RF Input

FM Tracking Adjustment
L1 ..... 88.0 MHz
TC1 ..... 108.0 MHz

TP2 FM IF Input

FM IF Adjustment
IFT1, 2 ..... 10.7 MHz

TP4 AM DET Output

TP5 FM DET Output

TP3 AM IF Input

FM Freq. Range Adjustment
L2 ..... 87.0 MHz
TC2 ..... 109.0 MHz

AM IF Adjustment
CFT1, IFT3 ..... 468 kHz